STANDARDS PRESENTATION TO CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD

PROPOSED STATE STANDARD,
TITLE 8, CHAPTER 4

§5155. Airborne Contaminants.

(a) Scope and Application.
(1) This section establishes requirements for controlling employee exposure to airborne contaminants and skin contact with those substances which are readily absorbed through the skin and are designated by the "S" notation in Table AC-1 at all places of employment in the state.

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Table AC-1

Permissible Exposure Limits for Chemical Contaminants

Chemical Abstracts Registry Number[a]	Skin[b]	Name[c]	PEL[d] ppm[e]	PEL[d] mg/M^{3}[f]	Ceiling[g]	STEL[o] ppm[e]	STEL[o] mg/M^{3}[f]
75070		Acetaldehyde	~~100~~ 25	~~180~~ 45	C	~~150~~	~~270~~
		***					
75865		Acetone cyanohydrin as CN	4.7	5	C		
		***					
98862		Acetophenone	10	49			
		***					
124049		Adiptic acid	-	5			
111693	S	Adiponitrile	2	8.8			
		***					
3825261	S	Ammonium perfluorooctanoate	-	~~0.1~~ 0.01			
		***					
98884		Benzoyl chloride	0.2	1.1	C		
		***					
140114		Benzyl acetate	10	61			
		***					
7726956		Bromine	0.1	0.7	C	~~0.3~~	~~2~~
		***					
98511		p-tert-Butyltoluene	~~10~~ 1	~~60~~ 6.1		20	120
		***					

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56235	S	Carbon tetrachloride	2	12.6	200 ppm	10	63
		***					
7440473		Chromium metal	-	0.5			
		Chromium (II) compounds, as Cr	-	0.5			
		Chromium (III) compounds, as Cr	-	0.5			
		Chromium (VI) compounds, as Cr	-	-	0.1 mg/M^{3}		
		Water soluble Cr (VI) compounds	-	0.05			
		~~Certain~~ ~~w~~Water insoluble Cr (VI) compounds	-	~~0.05~~ 0.01			
		***					
7440484		Cobalt, metal fume and dust, as Co	-	~~0.05~~ 0.02			
		***					
		Diatomacous earth; see Silica-amorphous					
		***					
106467		p-Dichlorobenzene; 1,4-dichlorobenzene	~~75~~ 10	~~450~~ 60	200 ppm	110	675
		***					
764410	S	1,4 -Dichloro-2-butene	0.005	0.025			
		***					
111422	S	Diethanolamine	~~3~~ 0.46	~~15~~ 2			
109897	S	Diethylamine	~~10~~ 5	~~30~~ 15	C	~~25~~	~~75~~
100378	S	2-(Diethylamino)ethanol	~~10~~ 2	~~50~~ 9.6			
		***					
14857342		Dimethylethoxysilane	0.5	2.1		1.5	6.4
		***					
57147	S	1,1-Dimethylhydrazine	~~0.5~~ 0.01	~~1~~ 0.025			
		***					
85007		Diquat; 1,1'-ethylene-2,2'-dipyridinium dibromide					
		Total dust	-	0.5			
		Respirable fraction[n]	-	0.1			

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Chemical Abstracts Registry Number[a]	Skin[b]	Name[c]		PEL[d] ppm[e]	PEL[d] mg/M^{3}[f]	Ceiling[g]	STEL[o] ppm[e]	STEL[o] mg/M^{3}[f]
			***					
2104645	S	EPN; 0-ethyl 0-(p-nitrophenyl) phenylphosphonothioate		-	~~0.5~~ 0.1			
			***					
75047	S	Ethylamine		~~10~~ 5	~~18~~ 9.2	C		
			***					
75003	S	Ethyl chloride; chloroethane		~~1,000~~ 100	~~2,600~~ 264			
			***					
107211		Ethylene glycol (vapor)		~~50~~ 40	~~125~~ 100	C		
			***					
		Glass, fibrous ~~or dust (<7µm in diameter); see Particulates not otherwise regulated~~		1.0 f/cc[s]				
			***					
556525		Glycidol; 2,3-epoxy-1-propanol		~~25~~ 2	~~75~~ 6.1			
			***					
76448	S	Heptachlor; 1,4,5,6,7,8,8-hepta-chloro-3a,4,7,7a-tetrahydro-4,7-methanoindene		-	~~0.5~~ 0.05			
			***					
118741	S	Hexachlorobenzene		-	0.025			
			***					
302012	S	Hydrazine		~~0.1~~ 0.01	~~0.1~~ 0.013			
			***					
74908	S	Hydrogen cyanide		4.7	5	C	~~4.7~~	~~5~~

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		***					
		Manganese and compounds, as Mn	-	~~5~~ 0.2	~~C~~		
7439965		Manganese fume, as Mn	-	~~1~~0.2		-	3
12079651	S	Manganese, cyclopentadienyl-tricarbonyl, as Mn	-	0.1			
		Manganese tetroxide	-	~~1~~0.2			
		***					
7439976	S	Mercury, ~~as Hg vapor~~ metallic and inorganic compounds as Hg	-	~~0.05~~ 0.025	0.1 mg/ M$^{(3)}$		
7439976	S	Mercury ~~(~~aryl ~~and inorganic~~ compounds~~)~~as Hg	-	0.1	C		
		***					
60344	S	Methyl hydrazine; monomethyl hydrazine	~~0.2~~ 0.01	~~0.35~~ 0.019	C		
		***					
1634044		Methyl tert-butyl ether; MTBE	40	144			
		***					
75525		Nitromethane	~~100~~ 2	~~250~~ 5			
		***					
127184		Perchloroethylene	25	170	300 ppm	100	685
		***					
122601	S	Phenyl glycidyl ether; PGE; 1, 2-epoxy-3-phenoxypropane	~~1~~ 0.1	~~6~~ 0.6			
		***					
61790532		Silica, amorphous					
		Diatomaceous earth	-	~~6~~			
		Total dust	-	6			
		Respirable fraction[n]	-	3			
		***					
74222972		Sulfometuron methyl	-	3.5			
		***					
100210		Terephthalic acid	-	10			

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Chemical Abstracts Registry Number[a]	Skin[b]	Name[c]	PEL[d] ppm[e]	PEL[d] mg/M^{3}[f]	Ceiling[g]	STEL[o] ppm[e]	STEL[o] mg/M^{3}[f]
		***					
509148		Tetranitromethane	~~1~~ 0.005	~~8~~ 0.04			
		***					
79016		Trichloroethylene; trichloroethane	25	135	300 ppm	~~200~~ 100	~~1080~~ 537
		***					
102716		Triethanolamine	-	5			
		***					
121448	S	Triethylamine	~~10~~ 1	~~40~~ 4.1	C	~~15~~	~~60~~
		***					
552307		Trimellitic anhydride	0.005	0.04	C		
		***					
108054		Vinyl acetate	10	30		~~20~~ 15	~~60~~ 45
		***					
~~106876~~	~~S~~	~~Vinyl cyclohexene dioxide~~	~~10~~	~~60~~			
100403	S	4-Vinyl cyclohexene	0.1	0.4			
106876	S	Vinyl cyclohexene dioxide	0.1	0.57			
		***					

(a) The Chemical Abstracts Service Registry Number is a designation used to identify a specific compound or substance regardless of the naming system; these numbers were obtained from the Desk Top Analysis Tool for the Common Data Base and from the Chemical Abstracts Indexes.

(b) Refer to Section 5155(d) for the significance of the Skin notation.

(c) Trade Names Removed From Table AC-1.

TRADE NAME		CHEMICAL/GENERIC NAME
Abate	see	Temephos
Ammate	see	Ammonium Sulfamate
Aqualin	see	Acrolein
Arasan	see	Thiram
Azodrin	see	Moncrotophos
Baygon	see	Propoxur
Bidrin	see	Dicrotophos
Butyl Cellosolve	see	2-Butoxyethanol
Cellosolve	see	2-Ethoxyethanol
Cellosolve Acetate	see	2-Ethoxyethyl acetate
Compound 1080	see	Sodium Fluoracetate
Coyden	see	Clopidol
Crag herbicide	see	Sesone
Cythion	see	Malathion
Dasanit	see	Fensulfothion

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Delnav	see	Dioxathion
Dibrom	see	Naled
Difolatan	see	Captafol
Disyston	see	Disulfoton
Dowtherm A	see	Phenylether and Biphenyl
Dursban	see	Chloropyrifos
Dyfonate	see	Fonofos
Fermate	see	Ferbam
Freons	see	Fluorocarbons
Furadan	see	Carbofuran
Guthion	see	Azinphos Methyl
Korlan	see	Ronnel
Lannate	see	Methomyl
Mariate	see	Methoxychlor
MLT	see	Malathion
Moxie	see	Methoxychlor
Nialate	see	Ethion
Nankor	see	Ronnel
Phosdrin	see	Mevinphos
Pival	see	Pindone
Plictran	see	Cyhexatin
Santobrite	see	Pentachlorophenol
Sevin	see	Carbaryl
Systox	see	Demeton
Teflon	see	Polytetrafluoroethylene
Thimet	see	Phorate
Thiodan	see	Endosulfan
Tordon	see	Picloram
Trolene	see	Ronnel
Vapona	see	Dichlorvos
Weedone 638	see	2,4-D
Zoalene	see	Dinitolmide

(d) For the definition and the application of the Permissible Exposure Limit (PEL), refer to Section 5155(b) and (c)(1).

(e) Parts of gas or vapor per million parts of air by volume at 25°C and 760mm Hg pressure.

(f) Milligrams of substance per cubic meter of air at 25°C and 760mm Hg pressure.

(g) Refer to Section 5155(b) and (c)(3) for the significance of the Ceiling notation. A "C" notation in this column means the values given in the PEL columns are ceiling values. A numerical entry in this column represents a ceiling value in addition to the TWA values.

(h) A number of gases and vapors, when present in high concentrations, act primarily as asphyxiants without other adverse effects. A concentration limit is not included for each material because the limiting factor is the available oxygen. (Several of these materials present fire or explosion hazards.)

(i) Coaltar pitch volatiles (benzene or cyclohexane-soluble fraction) include polynuclear aromatic hydrocarbons (some of which are known carcinogens) that evolve upon heating the distillation residues from coal tar.

(j) This standard applies to the cotton waste processing operations of waste recycling (sorting, blending, cleaning and willowing) and garnetting. It does not apply to cotton gins, cottonseed oil industry, or operations covered by Section 5190.

(k) A PEL of 0.05 ppm shall apply to exposures involving a mixture of ethylene glycol dinitrate and nitroglycerin.

(l) As sampled by method that does not collect vapor.

(m) Thermal decomposition of the fluorocarbon chain in air leads to the formation of oxidized products containing carbon, fluorine and oxygen. An index of exposure to these products is possible through their alkaline hydrolysis followed by a quantitative determination of fluorine content. No particular concentration limit is specified pending evaluation of the toxicity of the products but concentrations should be kept below the sensitivity of the analytical method.

(n) The concentration and percentage of the particulate used for this limit are determined from the fraction passing a size selector with the following characteristics:

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Aerodynamic Diameter in Micrometers (unit density sphere)	Percent Passing Selector
≤ 2	90
2.5	75
3.5	50
5.0	25
10	0

Source: American Conference of Governmental Industrial Hygienists TLy Committee 1968 Proceedings.

(o) Refer to Sections 5155(b) and (c)(2) for the definition and application of the Short Term Exposure Limit (STEL).

(p) The STEL for Beryllium and beryllium compounds is a 30 minute time weighted average.

(q) The STEL for methyl bromide is a five (5) minute time weighted average and is limited to one STEL per eight (8) hours.

(r) Compliance with the subtilisins PEL is assessed by sampling with a high volume sampler (600 – 800 liters per minute) for at least 60 minutes.

(s) Fibers per cubic centimeter of air at 25°C and 760mm Hg pressure. To be considered a fiber for this limit the glass particle must be longer than 5µm, have a length to diameter ratio of three or more, and have a diameter less than 3µm. The National Institute for Occupational Safety and Health (NIOSH), Method 7400, Issue 2, August 15, 1994, which is hereby incorporated by reference, shall be used for measuring airborne fiber concentrations.

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Sections 142.3 and 144.6, Labor Code.